

Data Takes Shape

Choose an organizer that fits the information you collect.

5.1.F “construct appropriate graphic organizers used to collect data, including tables, bar graphs, line graphs, tree maps, concept maps, Venn diagrams, flow charts or sequence maps, and input-output tables that show cause and effect; and”

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline each name of a graphic organizer in the passage. Circle the words that tell what kind of information each organizer can show.

Testing Ice Cube Melting

- ① Ms. Rivera's class investigated how surface color affects the time an ice cube takes to melt. Teams placed equal ice cubes on black, white, and silver paper under the same lamp. They measured melting time in minutes. First, each team needed a table with clear column headings. A table keeps exact measurements together before anyone makes a graph.

ICE CUBE MELTING RESULTS

Paper color	Melting time (minutes)
Black	18
White	24
Silver	29

- ② Next, the class made a bar graph from the table. The graph title named both the surface color and melting time. The labels below the bars named the paper colors. The vertical scale showed minutes. Bar height made it easy to compare the three results, while the table still showed the exact recorded times.
- ③ On another investigation, students might use a flow chart to show steps in order. A tree map can sort observations into groups. A concept map can connect ideas with labeled links. An input-output table can show a cause, more lamp heat, and an effect, faster melting. Choose an organizer that matches the information you need to collect.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 What are the two column headings in the class data table?

2 Which paper color had the longest melting time? Include the time in your answer.

3 Name two parts of the bar graph that help a reader understand the data.

4 Which organizer could show the cause and effect of more lamp heat and faster melting? Name the cause and the effect.

3 YOUR TURN _____ Your own words

Construct an input-output table for a fair test of how water temperature affects the time a sugar cube takes to dissolve. Choose three water temperatures and add reasonable dissolving times in seconds. Keep the sugar cube size and stirring the same.

WATER TEMPERATURE, INPUT	DISSOLVING TIME IN SECONDS, OUTPUT

PART 1 • READ AND MARK

Underline each name of a graphic organizer in the passage. Circle the words that tell what kind of information each organizer can show. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What are the two column headings in the class data table?	Paper color and melting time (minutes).
2	Which paper color had the longest melting time? Include the time in your answer.	Silver paper, 29 minutes.
3	Name two parts of the bar graph that help a reader understand the data.	A correct answer names two of these: a title naming surface color and melting time, labels below the bars for paper colors, or a vertical scale showing minutes.
4	Which organizer could show the cause and effect of more lamp heat and faster melting? Name the cause and the effect.	An input-output table. Cause: more lamp heat. Effect: faster melting.

PART 3 • YOUR TURN (SAMPLE ANSWER)

WATER TEMPERATURE, INPUT	DISSOLVING TIME IN SECONDS, OUTPUT
10 C	240 seconds
25 C	120 seconds
40 C	55 seconds

Accept any three clearly labeled water temperatures and plausible dissolving times that generally become shorter as water temperature rises. Accept equivalent headings that identify temperature as the input and dissolving time as the output.